Progress on a Cognitive–Motivational–Relational Theory of Emotion

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The 2 main tasks of this article are 1st, to examine what a theory of emotion must do and basic issues that it must address. These include definitional issues, whether or not physiological activity should be a defining attribute, categorical versus dimensional strategies, the reconciliation of biological universals with sociocultural sources of variability, and a classification of the emotions. The 2nd main task is to apply an analysis of appraisal patterns and the core relational themes that they produce to a number of commonly identified emotions. Anger, anxiety, sadness, and pride (to include 1 positive emotion) are used as illustrations. The purpose is to show the capability of a cognitive–motivational–relational theory to explain and predict the emotions. The role of coping in emotion is also discussed, and the article ends with a response to criticisms of a phenomenological, folk-theory outlook.

After being in the doghouse for many decades, written off as an unscientific concept, and sometimes treated as a unidimensional intervening variable such as drive or activation (Brown & Farber, 1951; Duffy, 1941, 1962; Malmo, 1959), the study of emotion in both the social and biological sciences has had a sudden and dramatic change of fortune. In the period between 1920 and 1960, only an occasional monograph appeared. However, by the 1960s there was evidence of renewed interest, especially in psychological stress (Janis, 1958; Lazarus, 1966; Mechanic, 1962) and its psychophysiology (Selye, 1956/1976), which is an important segment of the larger rubric of emotion. Many new books and chapters devoted entirely to emotion are now coming out of the woodwork, so to speak, including one of my own (Lazarus, 1991b; see also Smith & Lazarus, 1990).

Although it is difficult to be confident about any explanation of the revival of interest, my interpretation is that the cognitive movement in social science (Dember, 1974) and the more open epistemology that followed the loss of influence of radical behaviorism helped to open the floodgates. It became possible, indeed commonplace, to consider the cognitive mediators of psychological stress and emotion and even to take seriously the use of folk theory language.

There is also renewed interest in motivation, a topic that had been neglected for several decades. The motivational concepts now being used, such as values, goals, commitments, intentions, and plans, are fused with cognitive activity in contrast with earlier concepts, such as instincts, drives, and needs, which implied innate biological forces without cognitive referents. I believe that this renewal of interest in motivation occurred because individual differences in stress and emotion could not be adequately understood without taking into account what is personally important. We don't become emotional about unimportant things, but about values and goals to which we have made a strong commitment.

I begin with a brief exploration of the main tasks of a theory of emotion and proceed to some of the difficult issues a theory must resolve, the core relational themes and appraisal patterns for some of the main emotions, the coping process in emotion, and finally a reply to criticisms of phenomenology and folk theory.

Main Tasks of a Theory of Emotion

To provide a reasonably complete and researchable analysis, a theory must include two main ingredients. The first is that it must offer general propositions about the emotion process, which includes setting forth the key variables and the ways in which they operate. An emotion theory should be a systems theory, encompassing a number of interdependent cause-and-effect variables and processes, which follow the fluid principle of reciprocal determinism (Bandura, 1978, 1983), in which an antecedent can be an outcome, and vice versa, although not at the same instant.

The second is that it must offer specific propositions about each of the individual emotions (e.g., anger, anxiety, sadness, pride). These propositions should state how the diverse emotions are elicited and how each influences subsequent actions and reactions. These specific propositions should be consistent with the general propositions, but also should offer, in a sense, separate subtheories specifying how the process differs in each emotion.

The theory is relational, motivational, and cognitive. *Relational* means that emotions are always about person–environment relationships that involve harms (for the negative emotions) and benefits (for the positive emotions). As I have long been at pains to emphasize, psychological stress and emotion are not generated per se by factors in the environment *or* by intrapsychic processes, but by person–environment relationships that change over time and circumstances (Lazarus, 1966; Lazarus & Folkman, 1984, 1987).

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As will be evident later, one of my central premises is that each emotion involves a distinctive core relational theme, which is a molar way of describing the essence of the person–environment relationship for that emotion. I believe that these themes are universals in human experience, are innately capable of eliciting the appropriate emotions, have been observed for centuries in similar form (as expressed in the literatures of diverse cultures), and reflect a kind of wisdom of the ages. Although the idea that each emotion has its own particular person–environment relationship is widely assumed, but is often not made fully explicit, and although there are disagreements, I believe there is also a remarkable historical and contemporary consensus about the particular relational themes for many emotions.

Motivational means that acute emotions and moods are reactions to the status of goals in everyday adaptational encounters and in our lives overall. The concept of motivation helps us understand what makes an adaptational encounter personally relevant and a source of harm or benefit, hence emotional.

Motivation is used here in two interrelated senses. First, it is a trait or characteristic of a person, a dispositional variable that people bring with them to every encounter, in the form of goal hierarchies. Second, the disposition to attain a goal must be activated in any encounter by the demands, constraints, and resources presented by the environment of action. In other words, motivation is transactional as well as dispositional, inasmuch as it depends on the juxtaposition of a motive trait and a suitable environment. These ideas have, of course, been around a long time.

Cognitive means knowledge and appraisal of what is happening in the adaptational encounters of living (see Lazarus & Smith, 1988). Knowledge consists of situational and generalized beliefs about how things work; impersonal knowledge is apt to be cold rather than hot or emotional. Appraisal consists of an evaluation of the personal significance of what is happening in an encounter with the environment.

Although core relational themes summarize the key, emotion-producing feature of the person–environment relationship, they do not adequately describe the cognitive determinants of each emotion. A further analytic step is needed, namely, to specify the particular personal meanings, expressed as appraisal components whose pattern is causal for each emotion. In mature persons, in contrast with infants and young children, these appraisal components are heavily influenced by sociocultural variables and individual development. To say how a specific emotion is generated, one needs to know the appraisal pattern that distinguishes one emotion family from another. I will say more about this later.

Difficult Issues for Emotion Theory

I have chosen five issues that seem to be of overriding importance and interest: (a) What are the emotions? (b) Should physiological changes be a defining attribute? (c) Should emotion meanings be dimensionalized into a few basic factors or treated as discrete categories? (d) What are the functional relations among cognition, motivation, and emotion? (e) How can emotion theory reconcile biological universals with sociocultural, developmental sources of variability?

Definitional Problems: What Are the Emotions?

There has never been any agreement about which emotions should be distinguished. One reason for this is that the typical response definitions of emotion (e.g., Drever, 1952) emphasize action or action tendencies, physiological changes, and subjective cognitive–affective states without the guidance of theory to portray the emotion process and the boundaries of emotion and nonemotion. This has led Shaver, Schwartz, Kirson, and O'Connor (1987) and others to suggest that emotions should be regarded as fuzzy sets, with some being more or less prototypical, and that the effort to define emotions in terms of necessary and sufficient conditions is doomed to failure.

Ortony, Clore, and their colleagues (Clore, Ortony, & Foss, 1987; Ortony & Clore, 1981; Ortony, Clore, & Collins, 1988; Ortony, Clore, & Foss, 1987; see also Johnson-Laird & Oatley, 1989; Ortony & Clore, 1989) have made a number of useful lexical tests of what is or what is not an emotion. They have distinguished, for example, between what are merely emotional—for example, distress, excitement, and arousal—and what are truly emotions—for example, feeling angry or anxious. They also make the standard distinction between traits or dispositions—as in an angry or fearful person—which are not emotions, and states—that is, anger and fear—which are emotions. Nevertheless, many questions about the definition of an emotion remain unresolved and require theory as well as evidence to resolve. For example, is startle an emotion? Is pain or pleasure? Is empathy? Is aesthetic emotions?

Smith and Lazarus (1990) recently elaborated on an idea, proposed earlier by Tomkins (1962, 1963), that sensory–motor reflexes, physiological drives, and emotions are fundamental adaptational resources for all animals, but that advanced species have evolved toward less dependence, adaptationally speaking, on innate reflexes and drives and greater dependence on emotions. I think that startle, pain, and pleasure are best thought of as innate reflexes rather than emotions (Lazarus, Averill, & Opton, 1970). These reactions to external stimuli are automatic and fairly rigid consequences of the way we are constructed physiologically, and very specific and concrete stimuli are capable of eliciting each reaction. In contrast, no single stimulus is capable of eliciting any emotion regularly in all intact persons (cf. Ekman, 1984).

A study by Ekman, Friesen, and Simons (1985) compared the startle reaction under four conditions: a gunshot with no warning, a gunshot with a warning, instructions to inhibit the startle reaction, and instructions to simulate being startled in the absence of a gunshot. There was little difference in the morphology and timing of the expression of startle under these cognitive manipulations, but there were differences in the magnitude of

the reaction. Startle could not be totally inhibited. When it was simulated—although differences could be measured in its morphology, timing, and magnitude compared with the real thing—it was correctly distinguished by observers only 60% of the time, statistically a little better than chance.

Startle, therefore, seems to be an automatic, stereotypical reaction, supporting the claim that it is a reflex and not an emotion. Perhaps it could be thought of as a preemotion, an analogue of surprise (cf. Meyer, 1988; Meyer, Niepel, Rudolph, & Schützwohl, in press), curiosity, and the orienting reflex (cf. Kreitler & Kreitler, 1976), all of which prepare an animal for a subsequent evaluation of the significance of an environmental condition for well-being. In effect, startle is not fear, but it can lead to fear if the encounter is interpreted as danger; nor is it anger, but it can lead to anger if the stimulus for startle is regarded as an unjustified and offensive practical joke.

Pain and pleasure are likewise caused by a number of concrete, specific physical stimuli whose capacity to produce these sensory reactions is innately given. What complicates this interpretation, however, is that pain tolerance and possibly pain thresholds can be influenced by appraisal and by the anxiety about pain that it produces (cf. Beecher, 1956–1957), thereby dampening or enhancing both pain and pleasure. Although they are reflexes rather than emotions, pleasure and pain undoubtedly play a very important role in the development of the motivational structure on which appraisal and emotion depend. The infant and the young child learn to avoid pain and to seek pleasure. This idea has been at the center of emotion theory for centuries.

Emotions constitute a very different kind of adaptational process from reflexes. In the evolution of complex and intelligent species, whose adaptation came to depend greatly on the ability to learn from experience, emotions make possible much greater variability and flexibility than either reflexes or physiological drives. Moreover, human emotions are often predicated on complex social structures and meanings that define what is harmful or beneficial and, therefore, require judgment, the ability to learn from experience and the ability to distinguish subtle differences that signify different consequences for well-being. Appraisal is thus a key factor in the evolution of adaptational processes, including emotion.

Pain and pleasure are transformed into emotional distress or satisfaction only as a result of appraisals of their significance. For example, competitive runners in a close race who are experiencing painful fatigue on the way to the finish line will probably react with distress because the pain signifies that they are running out of steam and that the race may be lost. However, when the same runners are seeking to condition themselves in training, they are apt to feel satisfaction when they experience the same painful fatigue, because it now signifies that their bodies are being strengthened for future races without much being at stake. Similarly, the sensory pleasure of being stroked or stimulated sexually may lead to satisfaction when it is interpreted as signifying love or if there is willing participation, but to distress (e.g., anger, fear, or despair) when it is deemed inappropriate and unwanted.

Empathy and aesthetic reactions, on the other hand, are clearly emotional, rather than reflexive, in character. However, if we define empathy—as Hoffman (1985) did—as sharing another's feelings, then it cannot be a single emotion because its response characteristics depend on the emotion manifested by the other person. The shared emotion could be either joy, grief, anguish, envy, jealousy, guilt, shame, sadness, or depression—the latter being an admixture of sadness, anger, anxiety, and guilt. It is, therefore, better to regard empathy as a capacity and a process rather than an emotional state. I prefer the concept of compassion as an emotion that can be specified in advance rather than a hodgepodge of shared reactions. It is experienced when one comprehends and reacts to someone else in trouble by wanting to ameliorate the suffering.

A similar problem applies to aesthetic emotions, which arise in response to viewing a painting, sculpture, or drama; having a religious experience; or making a wondrous discovery about nature. The emotion generated could be awe, fear, anger, sadness, guilt, shame, pride, joy, or whatever, depending on the meaning we derive from the experience. In viewing a painting of a man adrift on a raft on a violent, windswept ocean, people will experience anxiety, sadness, or joy, depending on the meaning derived from the picture. When viewing the statue of agonized Laocoön and his sons being strangled by serpents, presumably sent by a punitive God to exact retribution for his attempt to warn the Trojans about the wooden horse left by the Greeks, some people will react with despair at their agony, others with anger when reminded of ever-present human maliciousness and folly, and still others with sadistic joy.

The rules relating to aesthetic emotions remain to be formulated. Why do we experience different reactions to music and painting? How much do universal forms and musical tones or rhythms influence emotions innately compared with learned meanings, and how do these innate and learned influences interact? How is it that we react emotionally to a drama, even though we are seated securely in a theater? These are profound and complicated questions for which our answers are inadequate and fragmentary.

It has always seemed remarkable to me that psychologists have shown so little interest in this human capacity to experience emotions vicariously in drama and film (see also a recent interchange in the *American Psychologist* between Walters, 1989, and Frijda, 1989). I think we react to them not because we suspend the reality of being safely in a theatre, but because the story is believable and personally very real, expressing active emotional struggles in our lives. Although I believe that the so-called aesthetic emotions are real emotions, they cannot be said to constitute a single emotion family but, like empathy, they include diverse emotions.

After I have eliminated some emotion-related terms for linguistic or other conceptual reasons—for example, because they connote traits rather than states—the basic, theoretically derived tests of a true emotion family on which my lexicon is based should come as no surprise, given the way I conceptualize the emotion process. They concern whether there is a clear, personally significant, relational content, an appraisal of personal harm, threat, challenge, or benefit, the potential for action readiness, and physiological changes.

Should Physiological Change Be a Defining Attribute?

Should physiological change be a defining attribute? There are two parts to this issue. The first concerns *whether* physiological activity should be an essential criterion of emotion; the second concerns *why* an affirmative answer has theoretical value. First, as to whether, when we think of the adaptational function of anger and fear and other so-called negative emotions, we presumably mobilize to modify a harmful or threatening person–environment relationship. Cannon's (1932/1939) fight–flight reaction and Selye's (1956/1976) general adaptation syndrome draw on this idea. Although mobilization makes sense for anger and fear and several other negative emotions, it poses a difficult problem for sadness, which is usually said to involve helplessness and inaction. The same problem applies to the so-called positive emotions because they are generated by a beneficial relationship with the environment, which presumably does not require mobilization to produce change.

We can solve the problem of the absence of mobilization in negative emotions such as sadness by speaking of physiological change rather than arousal, which makes sadness less of a problem and also allows us serendipitously to include relief in the list of emotions. Relief could be said to involve the subsidence of activation in the form, say, of lowered sympathetic and raised parasympathetic discharge (Kemper, 1987; see also Davidson, Ekman, Saron, Senulis, & Friesen, 1990, for evidence of central nervous system differences in positive emotions).

However, this still leaves the problem of positive emotions such as contentment, pride, and happiness, because the function underlying the physiological change is difficult to specify. One solution is to propose that these emotions sustain or even enhance a benign or beneficial relationship with the environment (Lazarus, Kanner, & Folkman, 1980) or signal the possibility of a change to a negative one. Positive emotions and the conditions that produce them are evanescent and rapidly give way to new commitments predicated on previous goal attainment. For example, after working for years toward a degree, one is briefly happy to attain it, but soon he or she must move on to the next phase of life, a job, career, family, or whatever. So one cannot bask long in happiness and pride.

Second, why should I want to make physiological change a hallmark of emotion in the first place? Why not, for example, postulate that there are two kinds of emotion, one that involves physiological change and one that does not? Or, perhaps I should say that some emotions are characterized by physiological arousal, others by change, and still others by no change at all. The main reason for resisting these solutions and holding to the position that physiological change—and by this I mean not merely autonomic nervous system activity but hormonal and central nervous system activity as well—must be a hallmark of emotion is that I want to distinguish emotional processes from nonemotional ones such as cold cognitions, homeostatic processes, and reflex or automatized adaptations. To make this distinction I commonly use the metaphor of heat; emotions are personally involving, whereas impersonal thoughts are cold. One usually thinks of emotions as organismic or embodied. It is an anathema to think of an emotion as an automatic pattern of thoughts without commitments, impulses, and bodily involvement.

If, on the other hand, one regarded all behavior and mental activity as organismic one would have to argue that the dichotomy of emotion and nonemotion is false or misleading. This would leave one without a clear distinction between emotional and nonemotional phenomena, which tends to be nihilistic with respect to the concept of emotion itself (cf. Duffy, 1941). If there is no significant difference between emotion and nonemotion, why have the concept in the first place? And so, although I recognize the difficulties, my preference is to accept the concept of emotion as more organismic than other processes and states, its intensity reflecting the extent of commitment to a goal or stake in the encounter. When provoked, an emotion is its own system that has its own special rules of operation. I think that the best way to justify this concept is to make three additional working assumptions.

1. Each emotion, which is defined by its core relational theme and pattern of appraisal, involves its own innate action tendency (see Frijda, 1986; Frijda, Kuipers, & ter Schure, 1989), which can be concealed or overridden by the process of coping. The action tendency in anger is attack, but it is often inhibited or transformed (cf. Averill, 1983). The action tendency in fear is avoidance or escape, but it too can be inhibited or transformed by counterphobic coping. This proposal differs from the position taken by Ortony et al. (1988), who suggested that it is both awkward and unnecessary to identify an action tendency for all emotions.

2. Each emotion has its own pattern of physiological change—even in the difficult instances I have noted—a form of physiological specificity with a long history (e.g., Arnold, 1960; Ax, 1953; Engel & Bickford, 1961; Funkenstein, King, & Drolette, 1957; Lacey, 1959; Lacey, Bateman, & Van Lehn, 1952; Lacey & Lacey, 1958). Autonomic nervous system specificity has been staunchly defended by Levenson (1988), and this defense should be extended to other neurophysiological systems such as the neurohumoral (Mason, 1975; Mason et al., 1976). The relevant findings are sparse, considering the importance of the issue, and weak for methodological and theoretical reasons. This does not mean, however, that a concerted and sophisticated attack on the psychophysiology of the

emotions would not produce worthwhile data to help evaluate the proposition.

3. The physiological response specificity suggested in the second assumption may be thought of in part as a result of the action tendency that is generated in each emotion, which provides one of the main explanatory links between emotion and physiological change (see Frijda, 1986; Frijda et al. 1989). The action tendency provokes a psychophysiological response pattern as preparation and sustenance for what must be done about the person–environment relationship. Our bodies also respond to much else as well, for example, inhibition and controlled timing, which are part of the coping process, and the complex, changing demands of the encounter. Therefore, there is bound to be much psychophysiological noise that obscures the basic pattern for each emotion.

Is this reasoning necessarily procrustean in difficult cases such as sadness, happiness, and pride? One need not be constrained by data, because to my knowledge psychophysiological study of these emotions is virtually nonexistent. The dilemma for sadness is that its core relational theme, irrevocable loss, leads to inaction and withdrawal into oneself. I am inclined to think of inaction and this kind of withdrawal as action tendencies, even though they are not directed toward the environment, which is considered by the sad person as refractory or irrelevant. The posture of sadness also reflects turning into oneself and away from the world.

And what about happiness and pride? Perhaps we should say that the action tendency is expansiveness and the approach is to share with others one's good fortune. Pride is closely related to happiness, yet distinguished from it by the enhancement of personal worth as a result of an accomplishment or valued object. The action tendencies of approach, expansiveness, and its motor expressions would be as relevant in pride as they are in happiness. One thinks here of Gilbert and Sullivan's comic opera, "H. M. S. Pinafore," in which the 1st Lord of the Admiralty, the Right Honorable Sir Joseph Porter, K. C. B. sings, "When at anchor here I ride, my bosom swells with pride."

Although literature cannot provide adequate evidence, perhaps the subjective sense of rightness we get from the imagery of a swelling chest adds support for the hunch that it is a unique bodily feature of pride. We will never know if this is insightful or a fantasy until we make the necessary observations. If the idea turns out to be empirically untenable, we could still shift to the less parsimonious and internally consistent position that some emotions have action tendencies with corresponding physiological changes and others do not. On the other hand, perhaps happiness along with sadness and dysphoria are best regarded as moods rather than acute emotions. Because mood states have no specific focus compared with acute emotions that are centered on the fate of specific encounters, an action tendency could be irrelevant if we think of happiness and sadness, too, as moods. I am not sure whether pride fits here at all. In any case, I find this solution tempting.

Should Emotion Meanings Be Dimensionalized into a Few Basic Factors or Treated as Discrete Categories?

There has long been tension between two conceptions of emotion, one based on discrete categories such as anger, anxiety, guilt, happiness, and pride, and the other based on dimensions. In the former, the first analytic step is to indicate the categories and only then to consider each as varying along a dimension of intensity. In the latter, the categorical variations are reduced by combining them on the basis of shared and divergent properties, usually by factor analysis, and then portraying the resulting factor structure in dimensional space.

Efforts to identify the dimensional structure of emotion go back historically to Spencer (1855/1890) and Wundt (1905) but are more familiar to us in Woodworth and Schlosberg's (1954) influential text in experimental psychology. Its modern expression is found in Davitz's (1969) research and in more recent efforts by Watson and Tellegen (1985), Russell (1980), Shaver et al. (1987), Storm and Storm (1987), and others.

By and large, roughly two to four dimensions have been obtained through factor analytic strategies, as in the case of Watson and Tellegen (1985) with two (positive and negative affect) and Davitz (1969) with four (activation, relatedness, hedonic tone, and competence). The tasks of respondents in these studies are varied, for example, matching facial or vocal emotional expressions to emotion terms, ratings of verbally depicted or visual social scenes, or rated similarities of the meanings of emotion words.

A typical assumption of dimensional analysis is that there is an invariant structure of emotion. However, the obtained patterns depend on the circumstances and even on the stages of the emotion process, although this has generated little interest. In my own research (Folkman & Lazarus, 1985), using a process formulation of emotion, ratings of the emotions experienced by subjects were obtained at three stages of a college examination: anticipation, right after the exam experience, and right after grades were announced. Nearly zero correlations between positive and negative emotions were obtained in the first stage, rising to $-.25$ after the exam and to $-.50$ after grades were announced. The explanation was that before the exam the situation was very ambiguous, so it was reasonable to be both happy and disappointed. However, as the situation was clarified, for example, after the students had experienced the exam and could guess about its outcome, the correlation rose; then to the extent people felt happy, they were less likely to feel disappointed. And after students knew how well or how poorly they had done, there was a much stronger negative correlation between positive and negative emotions. In effect, if one does not consider the context—in this case the stages of the emotion process—one will miss the variations in the dimensional structure.

There is value in simplifying generalizations that yield a picture of which emotions are closer to each other psychologically or farther apart on a number of meaning

dimensions, and even merely for the purpose of reducing redundancy. The contrary view, which favors categories, is that simplifying generalizations obscure important psychological meanings, which the many emotion words in our language were evolved to express.

An example of the latter problem is the two-factor solution of Watson and Tellegen (1985, p. 221), which places four response terms, drowsy, dull, sleepy, and sluggish, in the same position, presumably all sharing the common property of low positive affect. Although the terms *drowsy* and *sleepy* probably should not be referred to as emotions, an even more important consideration is that when one is lying in bed with nothing pressing to do, being drowsy is pleasant, but when one is sitting in a class or meeting at which one must pay attention, being drowsy is a distressing state that must be fought. Important relational meanings are obscured and even distorted by squashing different states together into the same point of the dimensional space.

It could be argued that there are as many emotions as there are harms and benefits inherent in any person–environmental relationship. Therefore, a categorical scheme leads to the same dilemma as factor analyzing a correlational matrix. How many categories should be created, or how many factors should be extracted? The answers are in part arbitrary and dependent on the purposes, clarity, internal consistency, and utility of the resulting categories or factor sets.

Thus, to identify anger as an emotion is also to moot many relational meanings by combining them within the single emotion family. Are rage and annoyance merely different in intensity, or does the quality change when one goes from annoyance to rage? Is pouting a form of anger? Is gloating? Although they both contain anger, they are also different ways of coping with a demeaning social relationship, and for some theoretical and research purposes these differences should be conserved. There is no absolute answer, inasmuch as the argument between factor analytic efforts to reduce emotion to a few factor dimensions and the categorical approach is about conceptual or practical utility. One cannot be considered more right or wrong than the other, and their respective value depends on the kinds of questions in which one is interested.

Nevertheless, if we want to know what makes people angry, the task is undermined by a preoccupation with reducing the basic response dimensions to a minimum. Anger then becomes only a kind of unpleasant activation when, in reality, it is a complex, rich, and varied relational pattern, even at times pleasant and distinctive in its effects, compared with other emotion categories (see also Clore et al., 1987, pp. 751–752, for a strong statement of this point of view).

What Are the Functional Relations Between Cognition, Motivation, and Emotion?

Because I have very recently discussed the functional relations between cognition, motivation, and emotion in depth (Lazarus, 1991a, 1991b), it is unnecessary to repeat that discussion here. To summarize briefly, I argued first that the direction of the behavioral flow between cognition and emotion goes both ways. Although emotion is always a response to meaning, it can also influence subsequent thoughts and emotions.

Second, cognition, which is causal, also continues into the response state, an idea that is disturbing to those who follow the Aristotelian dictum that a concept, A (e.g., an appraisal), cannot also be B (part of an emotion). However, emotion is a complex state, an AB, with A as cause and B as a combination of an action tendency, physiological change, and subjective affect, which includes the appraisal. This same reasoning applies to the germ theory of disease, which offers a nice analogy; the germ is said to cause the disease, and its presence is essential while the person is sick. If it is overcome by the body's defenses, it disappears along with the disease, although it sometimes remains dormant like a spore that has not germinated. The same applies to appraisal and the emotional response. Remove the provocation—say, the demeaning offense in anger or the threatening agency in fear—and the emotion no longer exists.

Third, without a goal and personal stake in a transaction, an encounter will not generate an emotion. Appraisal is an evaluation of the significance of what is happening for personal well-being—in effect, a personal stake is involved—whereas knowledge may be impersonal. Therefore, knowledge should be viewed as a necessary but not a sufficient condition of emotion, whereas appraisal is both necessary and sufficient (see also Lazarus & Smith, 1988), clearly a controversial stand.

Fourth, neither the speed of emotion generation nor its presence in very young children and infrahuman animals, nor the obvious fact that physical conditions such as fatigue, illness, and drugs affect acute emotions and moods, militate against the proposition that appraisal is necessary for an emotion to occur. Because appraisal, which is always taking place in a conscious, sentient being, is confounded with the effects of these conditions, including drugs, the two antecedent levels of analysis cannot readily be separated as causes to assess the position that emotion cannot occur without an appraisal.

Fifth, there is more than one way of knowing, and we need to give more attention to relatively inarticulate processes of emotion generation such as resonances (see Shepard, 1984; Trevarthen, 1979; Trevarthen & Hubley, 1978) between wishes or fantasies and what is actually encountered in contrast with developmentally advanced forms of cognitive activity. For want of a better term, *resonances* refer to an ineffable sense of compatability or incompatability between our personal identity and the outer world.

Cognitive psychologists of all stripes are beginning to take seriously at least two modes of meaning generation, one that operates automatically and without volitional control, the other deliberate and volitional. There is great current interest in this distinction and what it implies about social attitudes and the emotion process. Several contemporary emotion theorists have been advocating it, including Buck (1985), Leventhal (1984), and Scherer

(1984), and the research and writings of neurophysiologists such as LeDoux (1986, 1989) are consistent with the theme of different levels at which meaning is achieved.

The distinction also makes more tenable my strong position that cognitive activity is necessary to emotion, inasmuch as hasty and developmentally immature appraisals may occur in young children—even without the ability to verbalize their insights about feeling rules—and across animal species. There is also a need to make appraisal theory, which often sounds as though it refers only to conscious evaluative processes, coexist with depth psychology and an emphasis on the unconscious. I have tried to do this in Lazarus (1991a, 1991b).

How Can Emotion Theory Reconcile Biological Universals With Sociocultural Sources of Variability?

There are two major field-related positions in emotion research and theory: One is phylogenetic and centered on biological universals. It assumes the existence of underlying and peremptory neurophysiological mechanisms. The other is ontogenetic and sociocultural. It assumes the existence of learned variations in the emotion process, which emerge in psychological development.

Neuropsychologists, and those committed to the Darwinian tradition of natural selection and evolution, including those doing programmatic research on the universals of facial expression (e.g., Ekman, 1977, 1984, 1989; Izard, 1971, 1977, 1984), have emphasized what is inherited by species. Sociologists (e.g., Kemper, 1981) and social psychologists (e.g., Averill, 1980, 1982) who have focused on the social structure, and anthropologists who have focused on cultural meanings (e.g., D'Andrade, 1984; see also Shweder & LeVine, 1984) have emphasized what is acquired from the social system and from individualized experience. I do not mean to perpetuate here a false dichotomy because both Ekman and Izard acknowledge cultural variation as well as biological universals, and Kemper speaks of biological universals as well as cultural variations. The differences are largely matters of emphasis and the central focus of their research.

In spite of the fact that they are usually placed in apposition—even opposition—an adequate theory of emotion, especially one that claims to be cognitive, motivational, and relational, must find ways of reconciling the biological and the sociocultural. As a way of contributing to the resolution, I propose the following, which is cast in the form of "if . . . then" statements centered on the concept of appraisal, with one fundamental premise and two subpremises.

The fundamental premise is that in order to survive and flourish, animals (humans particularly) are constructed biologically to be constantly evaluating (appraising) their relationships with the environment with respect to significance for well-being.

One subpremise concerns biological universals. Using the "if . . . then" statement, one can understand these universals in the following way: *If* a person (or animal) appraises his or her relationship to the environment in a particular way, *then* a specific emotion, which is tied to the appraisal, always results; and *if* two persons make the same appraisal, *then* they will experience the same emotion regardless of the actual circumstances. We are built this way, and presumably our neural makeup makes these appraisals and the emotions they generate reside somehow in our collective mind. This is analogous to the concept of affect program that has been proposed—but discussed in only limited fashion—by Ekman (1977, 1984).

A second subpremise concerns sociocultural sources of variation. One can understand them by taking two conceptual steps: (a) A personality, which includes a person's goal hierarchy and beliefs, is forged by living in a particular society and culture, and selectively internalizing its values, meanings, and social rules; and (b) individual variability in the emotion process, which is manifest first in divergent motives and beliefs and second in individual differences in appraisal and coping, contributes to the "if" part of the "if . . . then" statement. This is evident in the divergent ways people appraise the personal significance of what is happening and in the ways the encounter and the emotions it generates are coped with. Room is provided in this formula for both the biological universals in emotion and the variations based on sociocultural influences that shape the personalities of the members of a society whose experiences are both common and variable.

The "if . . . then" formula gives rise to a fascinating and difficult-to-answer question about the role of cultural meanings and language in the emotion process. Suppose a culture has no term or concept for a given emotion. Will the people of that culture fail to experience that emotion? Briggs (1970) suggested, for example, that certain Eskimo tribes do not feel, much less express, anger. This also seems to be an implication of Levy's (1973, 1984) observations of Tahitians. Levy assumed that emotions are largely biological reactions, yet he observed that Tahitians have few words for sadness, longing, or loneliness. Because these states are scarcely recognized, he referred to them as *hypocognized;* and although they recognize severe grief and lamentation, Tahitians described sadness and the experience of loss as fatigue, sickness, or other kinds of bodily distress. Guilt too is hypocognized. Shame and anger are hypercognized, and there are many terms for them in the Tahitian language.

To solve the problem this poses, one must choose among a number of alternatives; for example, are Tahitians who are reacting with sadness but labeling the reaction with a distinctive, culturally based word, experiencing sadness but denying it, reacting with no emotion (which seems to be belied by their bodily distress), reacting with an emotion other than sadness, or responding to different circumstances than do people in other cultures in which the experience of sadness is common? If we were to presume that their state is not sadness, then it would imply that emotions are nothing but verbal tricks, labeled in whatever way the culture provides for, in a perhaps too broad expansion of the Whorfian hypothesis that words define meanings, or a variant of the Schachter

and Singer (1962) thesis that we label diffuse arousal by whatever concept characterizes the social context.

Contrary to the preceding alternatives, to claim that the Tahitians are actually experiencing sadness, which they can only verbalize as a metaphorical pain, would be to adopt the position that emotional meanings are fundamental and words provide only an inadequate approximation of them, which is the conceptual solution I prefer. I favor the proposition that over the course of living, and regardless of culture, people are likely to have had all the basic relational experiences, that is, all the *core relational themes* for the emotions characteristic of human social life.

Whether or not there is a label for the person–environment relationship and the emotion it provokes or a consensually correct word (across and within cultures), all or most of us have had the experience of (a) being slighted or demeaned (for anger), (b) facing existential threats (for anxiety), (c) experiencing irrevocable loss (for sadness), (d) transgressing a moral imperative (for guilt), (e) failing to live up to an ego ideal (for shame), (f) wanting something another has (for envy), (g) resenting a third person for having, seeming to have, or threatening what one wants (for jealousy), (h) taking in or standing too close to—metaphorically speaking—an indigestible object or idea (for disgust), (i) fearing the worst but yearning for better (for hope), (j) making acceptable progress toward achieving a goal (for happiness), (k) experiencing enhancement of one's self, or one's social worth, by being credited for a highly valued object or accomplishment (for pride), (l) crediting another with an altruistic gift (for gratitude), (m) desiring reciprocated affection from another valued person (for love), (n) and being moved by another's suffering (for compassion). These constitute my proposals for core relational themes for the main emotion families.

I am proposing, in effect, that we are biologically constructed in such a way that if any of the aforementioned relationships are encountered personally and appraised as such, regardless of how they are labeled or explained, we will experience the emotion linked to the appraised meaning. Neurologically intact persons are able to experience all of the emotions. We do not need to have words for them—children can experience emotions and grasp their rules without being able to verbalize them (cf. Dunn, 1988)—although words do help us define what is happening. This is the way the biological principle in the first subpremise of the "if . . . then" formula works, even when we are uncertain about how to label what is being experienced or what is wrong in our formulation of it. Emotions are not mere verbal tricks or labels but reactions to fundamental relational meanings that have adaptive significance in our lives.

Nevertheless, if what I said previously about the influence of sociocultural factors on the "if" of the "if . . . then" formulation is valid, then language and cultural values must also have effects on the signs and significances carried by social events. How might we think about this? There seems to be little doubt that diverse cultures make different sense out of life's events. One way they do this is by emphasizing different aspects of general problems. For example, Lutz and White (1986) pointed out that when there has been a violation of one's cultural codes,

> The Japanese focus on the audience for their errors (Lebra, 1983) while the Ilongot adolescent experiences his inadequacy as a challenge to be overcome (Rosaldo, 1983) and the American might tend to focus on the damage done by the error or on what the error says about one's character. In addition, there is cultural variation in how much emphasis is given overall to each problem type. (p. 428)

Another way they do this is to interpret these problems differently. For this, Lutz and White (1986) listed the following:

> What is considered dangerous, a thing worth having, or a loss. . . . Are many children a resource or drain? Is attachment to others at the center of life or life's illusion? . . . . What risks are worth taking? . . . . Who ought to take them, what causes or may be held accountable for them? (p. 428)

The principle being enunciated could be summarized by saying that culture helps us define the conditions of appraisal of core relational themes, for example, indicating the signs of love, the suitable objects of pride, what a culture or individual considers demeaning, what is an appropriate stake, what can and should be done. All of these meanings and more shape the appraisal process. Levy (1973) spoke of *constitutive rules,* whereby cultural meanings shape the emotion process between the event and the reaction, whereas *regulative rules* operate between the inner emotional state and the observable outcome in expression, as in the concept of display rules (e.g., Ekman, 1977).

The biological principle says only that certain fundamental meanings—subject to how these are defined by the culture—are to be found in emotional social relationships, regardless of the fuzziness or obfuscations that verbal language permits. If we recognize that someone has slighted or demeaned us, we will react with anger because of the way we are built biologically, even if the interpersonal scenario is smoothed over, reinterpreted, or qualified. It is a good question, and anybody's guess, whether the process of anger generation is completely obscured by ego defenses that distort meaning, or whether instead the anger-generating process remains active in the mind, as illustrated by the Freudian concept of the return of the repressed. The reader who is interested in this issue might also consult Lazarus (1991b) for a fuller treatment of the role of culture and of the unconscious. Many others, too, have struggled with this set of issues.

Classification of the Emotions

Although I cannot defend it fully here, I can make brief comments later in the article on the reasons for excluding some states from my classification of the emotions. My position is in no sense fixed, and because of the difficulty of resolving this without controversy and the absence of necessary observations, I would prefer to leave the matter open.

There are four categories of emotion.

1. *Emotions resulting from harms, losses, and threats,* including anger, anxiety, fear, guilt, shame, sadness, envy, jealousy, and disgust. These are also referred to as negative emotions because the cognitive–motivational–relational process involved in their generation is based on thwarting.

2. *Emotions resulting from benefits,* defined as attaining a goal or subjectively reasonable movement toward it, including happiness and joy, pride, gratitude, and love, whether companionate or romantic. These emotions are considered to be positive for reasons parallel with the process of emotion generation in negative ones, but based on benefits rather than on harms.

3. *Borderline cases* such as hope, contentment, relief, compassion, and aesthetic emotions.

4. *Nonemotions,* which although often emotional in Ortony et al.'s (1988) sense, should not be regarded as emotions. They fall into a number of subcategories: (a) complex states including grief and depression, (b) ambiguous positive states such as expansiveness, challenge, confidence, determination, (c) ambiguous negative states such as frustration, disappointment, and meaninglessness, (d) mental confusion such as bewilderment and confusion, (e) contentless excitement or arousal such as upset, distress, nervousness, tension, and agitation, and (f) preemotions such as interest, curiosity, anticipation, alertness, surprise, and amazement.

The first two categories, consisting of negative and positive emotions, are pretty standard. The third, borderline emotions, is more controversial, and I have already briefly argued the case for not treating empathy or aesthetic emotions as emotion families. The nonemotions are the most controversial of all, inasmuch as grief and depression are commonly treated as emotions, although I believe incorrectly (they are, of course, emotional). Although I have sometimes treated challenge as an emotion, I now believe that, like threat, it is best thought of as a mediating appraisal from which emotions such as hope or the problematic states of enthusiasm and excitement may be derived. Frustration is often treated as an emotion, but like challenge and threat, I regard it as an appraisal. A similar argument could be made for disappointment and meaninglessness. They may lead to anger, anxiety, or sadness, but are not, per se, emotions. Finally, although clearly emotional, upset, distress, and the like refer only to a generalized arousal without any relational content. In effect, terms like these single out one facet of a more complex emotional configuration—and in my view not the most important facet—so that one does not know precisely what the person–environment relationship and appraisal pattern might be without reference to the whole configuration.

Appraisal Patterns

Because molar summaries, that is, the core relational themes, are insufficient for a detailed cognitive–motivational–relational analysis of each emotion, a more molecular analysis of the pattern of appraisal for several emotions will be given shortly. First, however, I should list and define each appraisal component in the system.

Primary Appraisal

Primary appraisal concerns the stakes one has in the outcomes of an encounter. It is primary because without a stake there is no potential for an emotion. The three primary appraisals are *goal relevance, goal congruence* or incongruence, and *goal content.* In Lazarus (1991b), I changed goal content to *type of ego-involvement.*

Goal relevance has to do with what if anything is at stake, and on this depends whether there is the potential for any emotion in the encounter. If something is at stake, which is another way of saying that a goal is engaged by the transaction, then its fate will result in an emotion whose intensity is tied, in part, to the importance or strength of the goal.

Goal congruence or incongruence concerns whether the encounter is appraised as harmful (threatening if it is future harm) or beneficial. This conflict-centered principle is the key to whether the resulting emotion will be positive or negative. If an appraisal is made that harm or threat has occurred, then the emotion will be negative; if the appraisal is that benefit has occurred, then the emotion will be positive.

Goal content, or type of ego-involvement, is necessary to distinguish among several emotions, for example, anger, guilt, and shame. It is concerned with the kind of goal at stake, for example, preservation or enhancement of one's ego identity, a moral value, or living up to an ego ideal for each of the aforementioned emotions, respectively.

Secondary Appraisal

Secondary appraisal concerns the options and prospects for coping. The three secondary appraisal decisions are blame or credit and whether it is directed at oneself or another, coping potential, and future expectations.

Blame or credit depends on whether there is an attribution of accountability or responsibility for the harm, threat, or benefit, and the extent to which those persons are in full control of their damaging or beneficial actions. Thus, a combination of two attributions, accountability and control, is essential to the hot appraisal of blame or credit.[1] Whether the blame or credit is directed to oneself or to another influences whether there will be anger, guilt, shame, or pride. Note the interdependence between two distinct kinds of cognitive activity, knowledge or attribution, and appraisal (Lazarus & Smith, 1988).

Coping potential has to do with whether and in what way we can influence the person–environment relationship for the better. Future expectations concerns what we think will happen in the way of change, that is, whether

[1] I am indebted to M. Perrez of the University of Freiburg, Switzerland, for suggesting this way of thinking about the dependence of blame or credit on accountability or control. Invaluable discussions of such issues took place while I was a visiting professor at the University of Heidelberg during a seminar in Geneva in June 1989, involving, among others, Perrez, Klaus Scherer, Nico Frijda, and Shlomo Breznitz.

things will work out favorably or will get worse for any reason, including effective or ineffective coping.

Note too that there is an intimate relationship between core relational themes and the patterns of appraisal that are designed to discriminate among the individual emotions. Appraisal patterns provide the detailed evaluative decisions that sum up to each core relational theme, which captures the essence of the relationship. For example, anger is defined relationally as being unfairly slighted or demeaned, which in turn depends on there being an external agent that is held blameworthy for the harmful action, as will be seen later. There is no contradiction or competition between these two levels of abstraction. One should be able to go from the more detailed appraisal components to the core relational theme and back the other way from the core relational theme to the appraisal pattern.

I said at the outset that a main task of a cognitive–motivational–relational theory of emotion is to show how the pattern of appraisal differs for each emotion. All six appraisal components are needed to go beyond the simple characterizations of each emotion family and consider the subtle shades of meaning inherent in variations within a family. For example, to distinguish pouting anger from gloating anger, one would need to consider secondary appraisals such as coping potential, in addition to blame. A pout, which is a weak reproach, occurs when a dependent and needy person feels threatened by the loss of interest and support from another. If the threatened person were fully self-sufficient and autonomous, a weak reproach would not be needed to obtain more psychic supplies; instead, a sharp attack might be made or one might even gloat at the other's comeuppance. Coping potential contributes to this difference. Pouters see themselves as limited in power either to control the situation or to tolerate the loss of succor, whereas gloaters feel in much greater control, at least on the surface.

A surprising amount of mileage, however, can be gained by using only four appraisal components, namely, goal relevance, goal congruence or incongruence, goal content, and blame or credit. To illustrate how an appraisal-centered analysis might look, I would like to use four emotions, anger, anxiety, sadness, and pride (thereby including a positive emotion), to show how an appraisal analysis would look without the subtleties and meaning nuances that would require additional components. I make no claim, as did Scherer (1984), that there is any temporal order to the appraisal components in the appraisal decisions made in any emotional encounter.

Anger

I will give more attention to anger because of its especially interesting and controversial nature. Anger, I propose, depends on an appraisal that one's ego identity, the active goal content, is at stake, which also implies goal relevance. When this identity has been threatened or harmed, there is goal incongruence in what is deemed to be an unfair slight or insult (cf. Aristotle, 1941). In anger, blame is also necessary, and it depends on the attributions that someone is accountable and has full control over the demeaning action. If the person who thwarts us is not capable of doing otherwise, anger is absent, muted, or directed elsewhere (cf. Berkowitz, 1989, for a different account).

A prototypical scenario for anger is to enter a store only to find the clerk from whom service is sought engaged in an interminable personal phone call, forcing us to wait. If, on the other hand, the store is inundated with customers, a clerk who perforce makes us wait while doing the best he or she can is not likely to arouse our ire. If anger is aroused in this context, it may instead be directed toward the store management, the society, human folly, or oneself for being foolish enough to be caught in this frustrating situation. Finding a suitable external object to blame can be a complex issue that depends on how one construes accountability and control as defined by social rules and obligations.

This cognitive–motivational–relational view of anger seems to imply that one becomes angry only when there has been direct harm to oneself, an impression that I hasten to correct. If one does not examine it carefully, it appears to be a self-centered analysis that overlooks the possibility of concern over the well-being of other persons and ideas. What of the anger we feel, for example, when we see someone malevolently assaulting someone who is innocent and helpless, such as a child or a victim of social or political oppression? Why do we feel anger in such a context if the process of anger generation always involves an unfair slight to our personal identity?

I suggest that in this kind of situation, one's basic values, including fairness and justice, and hence one's ego identity, have indeed been assaulted. We react vicariously to what is happening to another, as if it were happening to ourselves. Our goal commitments extend readily to others whom we love or to persons and social groups with whom we are identified, and also to ideas or ideologies. Therefore, although we have not been attacked ourselves, we react as though we were, as if we had a personal stake in what is happening. In these instances, assaults on other persons seem to be assaults on oneself and one's identity.

Whether or not the reader accepts the foregoing argument, a great many anger scenarios certainly do involve an attack on our ego identities, leading to an appraisal of a personal slight or insult. I believe this is a major, if not *the* major, variant of the psychodynamics of anger. I prefer not to treat this anger scenario as a special case but rather as representative of the core relational theme of anger, in effect, that we have been treated as less than we would wish, whether or not the intent was malevolent. This may be why retaliation and vengeance are so much a part of anger. Vengeance is a way of repairing damage to one's demeaned, hence damaged, ego identity.

At this juncture, the fact that I have not dealt with the development of the emotions presents a possible source of confusion, about which I should digress briefly. Earlier and elsewhere (Lazarus, 1991a, 1991b), I made the important distinction between deliberate and voli-

tional ways of achieving meaning, on the one hand, and automatic and involuntary modes, on the other. One should not view the emotion process in infants and young children (or in infra-human animals) as necessarily the same as the emotion process in adults. The discussion of appraisal might appear now as backsliding, that is, it might appear as presenting an exclusively adult version of appraisal as deliberate and reflective, but one that doesn't apply at all to infants and young children. And so I must confront whether the emotion process in infants and young children, say, for anger, is different from the adult version.

There is beginning to be striking evidence about what infants and young children are capable of cognitively. For example, Stenberg and Campos (1990) observed evidence of anger in infants in response to physical restraint. At three months of age the baby shows just distress, not anger; at four months the baby shows anger and looks at the source of the restraint, that is, the hand holding its wrist; at seven months, the baby looks at the face of the person who is the source of the restraint, or at the mother if she is present.

What does this mean for the appraisals relevant to anger? Is the baby capable of a primitive sense of its own identity? Probably yes if we take seriously the observations of Bahrick and Watson (1985) that five-month-old babies recognize the contingency between their own body movement and its playback on a video monitor (see also Papousek & Papousek, 1974). Distinguishing self from other seems to be a universal psychobiological principle. Even our tissues and those of plants differentiate self from foreign protein, and we die from autoimmune diseases if our bodies respond excessively and inappropriately to the distinction.

Does the baby appraise the restraint as an unwarranted offense? Probably yes, at least in the most rudimentary sense. Does the baby view the agent of restraint as external, therefore being capable of judging accountability? When at four months it looks in anger at the hand restraining it, and at seven months at the face of the owner of that hand, it is surely distinguishing the external source of the offense and gradually evolving greater understanding about it. Does the baby impute control to that source? It seems unlikely, but I am not aware of any observations that would help us decide.

Whether and how an infant or young child arrives at the essential meanings inherent in appraisal components and patterns is crucial to how and when particular emotions emerge developmentally. I believe it is tenable to say that very early there is an elemental sense of goal relevance, goal incongruence, ego identity, and a basis for the attribution of external accountability that is important in anger. Attributed control is problematic, which means that perhaps blame is essential only in adult anger and not in that of babies or very young children, although without solid evidence this question remains open. A major research task of a cognitive–motivational–relational theory is the developmental study of appraisal and its role in individual emotions.

Anxiety

Along with many other investigators, I propose that the goal content relevant to anxiety is existential, that is, centered on meanings and a sense of identity that the individual has constructed (see Lazarus & Averill, 1972). This threat provides the goal incongruence in the appraisal. The goal content in anxiety overlaps with the goal content in anger, but the nature of the threat and how it might be dealt with is quite different.

Although an uncertain threat that makes us anxious may be concretized as an upcoming exam or a social confrontation, the basic threat is to existential meanings that are vague and symbolic, so that we cannot tell what is going to happen, when it will happen, and what should be done about it, unless we pin the threat down to a concrete event. Perhaps this is why anxiety has so often been treated as *the* basis of psychopathology. In anxiety, the threat is not insult but the potential loss of meaning and uncertainty, which makes us feel more or less powerless. In anger there is a concrete offense or slight by someone against whom we might retaliate. Anxiety is also an anticipatory emotion, par excellence, just as anger usually, although not always, follows a damaging confrontation.

In anxiety there is no obvious agent of threat, whether external or internal, to be held accountable, and so there is no blame. If there were, and control were attributed to that agent, anxiety would be transformed into anger, guilt, or shame, which depend on the presence of either an external agency or oneself to blame. Of the negative emotions, only sadness shares with anxiety the absence of blame and the absence of a clear possible action to ameliorate the threat or harm. In anxiety the action tendency, as in fright, is avoidance or escape, whereas in sadness it is inaction and withdrawal. Because there is nothing concrete and external to avoid in anxiety, there is also a strong urge to concretize its source and externalize it, inasmuch as a known danger, although often illusory, is easier to deal with than an unknown one. This urge to locate a concrete external agent also applies to anger, especially when it is a defense against self-blame or when there is uncertainty about the agent that caused the harm.

Sadness

The goal relevance in sadness is not content specific, as it is with anger, anxiety, guilt, and shame, but consists of any commitment of importance to the individual—for example, one's social role, job, public reputation, or loved one. An irrevocable loss of this commitment, which implies helplessness or lack of control, is the goal incongruent event that produces sadness. When sadness is experienced, the person believes there is no way to restore the loss. And as in the case of anxiety, no agent is held accountable, hence blameable, for the loss. If the person locates an external agent, the emotion will be anger, or perhaps anxiety, rather than sadness. If it is internalized, the emotion will be guilt or shame. It is possible for attributions of accountability and control, therefore appraisals of blame, to change from moment to moment as

the person grieves over the loss, and the emotion will also be transformed thereby from sadness to anger, anxiety, guilt, or shame.

This is why in depression, which is usually a mixture of anger, guilt, anxiety, and sadness, the sadness component is often overwhelmed by these other active emotions, which require that the loss not be construed as irrevocable. One can (a) be angry at a deceased loved one for desertion, (b) be anxious when engaged in an effort to restore the lost meaning (Marris, 1975), (c) disbelieve or deny the loss, or (d) struggle with its existential significance. Sadness requires an unusual combination of appraisals centered on irrevocability of loss and the absence of an agent to blame for it.

To my mind, sadness is unique among the emotions in coming at the end of a chain of struggles to cope with loss. The person reacts early on, perhaps after a short period of denial or numbing, mainly with other emotions such as anger, anxiety, guilt, and shame, which are focused on trying to restore what once was. These are the emotions of active struggle, and sadness is not apt to be the dominant emotion in association with them. Only slowly does the person facing loss accept its irrevocability, and with it comes a loosening of the lost commitment and an openness to new ones. In successful grieving, sadness ultimately gives way to wistfulness, with occasional bouts of distress connected with anniversaries or other reminders of the loss.

Sadness has two other features that make it distinctive among the negative emotions. First, as I noted earlier, its action impulse is inaction or withdrawal from involvement in the world, and second, it is apt to evolve slowly with the gradual struggle to accept the unpalatable truth of loss, a process that may extend over a long time. For both of these reasons and for the existential connotations of sadness, it might be better, as I said, to treat sadness as a mood rather than as an acute emotion.

Pride

The positive emotion of pride also draws on and can be distinguished by the same four appraisal components I have been using for the negative emotions analyzed earlier. With respect to goal relevance, there is some highly valued object or accomplishment that can have any content. For goal congruence (pride involves a benefit rather than a harm), a valued object or accomplishment has been attained in a pride-generating encounter. The direction of accountability and control attributions is to oneself; that is, one is credited for it (in contrast with blame in the negative emotions). Drawing on Hume (1957), being credited results in the enhancement of self-worth, which is the special theme distinguishing pride from happiness.

Coping Process in Emotion

Coping is the psychological analogue of action tendencies. Whereas action tendencies appear to be biologically given and therefore relatively rigid and automatic—although capable of suppression and transformation—coping is more psychological, complex, deliberate, and planful.

As I pointed out elsewhere (Folkman & Lazarus, (1988a, 1988b; Lazarus, 1990; Lazarus & Folkman, 1984, 1987), coping, which is usually treated within the rubric of psychological stress, is a key variable in the emotions, especially the negative ones based on harm and threat. Not only does coping follow emotion, as in emotion-focused coping, which is designed to regulate emotional distress and is the traditional way in which coping is conceptualized, it also shapes subsequent emotion, a direction of effect that has been underemphasized in traditional coping theory.

Coping shapes emotions in one of two ways: Problem-focused coping often involves planful actions to change the actual person–environment relationship by directly acting on the environment or on oneself. Emotion-focused coping alters only what is in the mind in one of two ways, either by attention deployment (e.g., avoidance) or by changing the meaning of the relationship—for example, by denial or distancing, in which the distressing emotion associated with harm or threat is made moot. For this reason I have sometimes used the phrase *cognitive coping* as a synonym.

Bear in mind that the fundamental mechanism of these effects is appraisal. Changes in the actual person–environment relationship change the way it is appraised, just as changes in attention deployment or in the meaning of the relationship as a result of cognitive coping is also based on appraisal. Emotion is a reaction to meaning, and if the meaning is changed there will also be a change in the subsequent emotion.

Until recently I discussed coping without reference to goal commitments or intentions. However, Laux and Weber (1991) have convinced me that I underemphasized coping as a way of dealing with a changed, hence newly motivated, person–environment relationship, and I need to consider additional implications of my characterization of coping as efforts to manage psychological stress (Lazarus & Folkman, 1984, 1987). To speak of coping as effort was originally a way to make it independent of adaptational outcomes, thus making it possible to assess the effectiveness of a coping strategy unconfounded with the coping process itself.

However, if one takes seriously that coping is an effort to accomplish something or if one speaks of coping functions, intentions or goals are implied, whether or not the person can tell us what they are. For example, if we say that avoidance is a way of not paying attention to whatever troubles us, then it clearly has the intention, or function if one prefers, of keeping our attention misdirected. In effect, when we use the terms *avoidance, denial,* and *distancing,* we are implying goals or intentions.

Laux and Weber (1991) have been studying two kinds of emotional encounters in married couples, anger and anxiety, to explore the relationships among intentions underlying the coping process. For example, if one of the spouses attacks or slights the other, the resulting anger can lead to two kinds of intention: preserving the relationship or preserving or enhancing the ego identity that has been damaged. One would expect that the coping

strategy for doing one or the other would differ. For example, if one's intention is to preserve the relationship, then a likely coping strategy would be to hide from the partner that one is angry or to find good reasons for the partner's hostile behavior. However, if one's intention is to preserve or enhance a wounded social or self-esteem, then escalating the anger might be a more suitable strategy, making sure that the partner knows how angry and ill-treated one feels, and retaliating. In effect, intentions or goals should greatly affect the coping process.

One way to think of the coping process is as a set of lower order goals (or intentions) that serve as methods of achieving higher order goals, as in means–ends relationships. The intent to preserve the relationship, for example, or to preserve or enhance one's wounded identity might be thought of as a higher order goal for which lower order goals serve as the means (methods) to achieve it. The psychology of motivation has dealt with this important theoretical issue mainly in passing.

One might think of goals and means in a tree metaphor, in which small coping steps are the twigs and small branches and higher order, larger branches and trunks are the grand goals. Larger order, more abstract goals such as having a useful life and being a professional psychologist, physician, or university professor depend on lower order goals such as going to college and getting good grades to qualify for graduate or medical school. The latter, more concrete goals are, in a sense, routes that must be traversed or steps that must be successfully negotiated to reach the higher order goal (see also Ortony & Clore, 1981).

Whether we use the terms *coping, means to ends, goals,* or *intentions* depends not so much on the difference in the kind of behavior involved but rather on their place in the goal hierarchy, their scope or level of abstraction. This is what the tree metaphor is designed to express. From this point of view, the topic of coping is a part of motivational psychology as well as of decision processes (appraisal) and strategies or methods of attainment. It is artificial to separate these concepts, as if they belonged to different psychological arenas, when they operate in nature interdependently and in an overlapping way.

Phenomenology, Folk Theory, and Emotion Theory and Research

In concluding, I want to address an issue that is often raised about appraisal theory. It concerns whether the theory can be deterministic and lead to empirical research, which might throw light on the adequacy of formulations about the emotion process. My approach to appraisal has some features in common with a subjective or phenomenological system, but it contains other features contrary to the idea that "thinking alone makes it so." For example, I have always assumed that people usually appraise encounters with the environment more or less realistically in keeping with the relational requirements being faced. Otherwise, there would be a poor fit between appraisals and the adaptational requirements created by the environment and between the process of coping and those requirements, which should result in dysfunction (Lazarus, 1990; Lazarus & Folkman, 1984).

Nevertheless, there will often be discrepancies between a person's appraisal and coping and the objective realities of the person–environment relationship, at least as these are judged consensually. These discrepancies are what make it essential that theories of psychological stress and emotion not be based solely on what is objectively found in the environment or in personality, and that they take into account the person–environment relationship as this is understood and appraised.

Note, however, that discrepancies between the subjective and objective world, so called, arise from a number of factors and do not necessarily imply distortion of reality, pathology, or dysfunction. For example, because goal commitments and beliefs vary, both across persons and within persons over time, what is salient and noticed about the environment will also vary. And because the environment is tremendously complex, making it impossible to pay attention to everything that is happening, what different persons see or the same person sees from one moment to the next, varies. Thus, although ego defenses too will lead to divergent perceptions and appraisals, both between and within persons, one's picture of the environment and of one's relationships with it will often differ, without any implication of pathology.

I am inclined to question whether it is methodologically possible to construct a picture of the objective environment that is suitable to the emotions and have suggested elsewhere (Lazarus, 1990) that psychologists who inveigh against subjectivism as methodologically unsound have not themselves resolved these methodological issues. Two issues are particularly difficult. One is that a consensual definition of the objective environment may simply not apply to particular individuals from the standpoint of their personal beliefs and goal commitments. These individuals are, in a sense, looking at different worlds, and we will never understand them from a normative perspective.

A second, even more difficult problem, is that the objective world is easy to describe physically but not so easy to describe from the point of view of the emotional meanings it carries, which are not all monolithic or universal. As Watzlawick (1976) has pointed out, the physical properties of gold are not contested or in doubt, but the symbolic meanings of gold as money, or as reflecting other values, constitute its emotional significances. Even its material value changes consensually as a result of many variables that lead to changing valuations by persons charged with making this decision each day in London, New York, Zurich, or wherever. It is not the physical properties of the environment that count in the emotion process, but its subjective meanings. Therefore, the objective environment, physically speaking, is often irrelevant, and it is subjective meanings that we need to understand. Psychologists should, of course, study the objective world to the extent possible, but not merely as a thoughtless formula with which to castigate theories predicated on subjective appraisals.

From a larger epistemological point of view, the denigration of folk theory or naive psychology, as it is sometimes called, has been common, albeit often expressed somewhat snidely. This denigration rests on a hidden value that theory in psychology, like the physical sciences, which center on invisible structures and energies underlying matter, should not be intuitively sensible but should involve reductive concepts that have no necessary connection with how the world of the mind appears to operate. To these critics, folk theory is another name for useless armchair blather having little scientific value.

I offer two replies to this common canard: First, if we truly believe that emotions are the result of the way people construe and evaluate what is happening, then the most useful theory will be based on those construals and evaluations, inasmuch as they are what, psychologically speaking, causes the emotions. Second, if formulated appropriately, folk theory can be evaluated by observation, which is the hallmark of science, just as readily as can any other kind of theory.

A potential obstacle to a deterministic folk theory is that if we are unable to predict appraisals on the basis of measureable antecedent causal variables, the conceptual system will remain entirely descriptive and circular because appraisal then could be known only after the fact. The solution, I think, lies in an epistemological blend of descriptive and causal analysis, which can be applied in a systems theory fashion by postulating and examining the appraisal consequences of the antecedent variables. As I have suggested elsewhere (Lazarus, DeLongis, Folkman, & Gruen, 1985; Lazarus & Folkman, 1986), using the flexibility about cause-and-effect variables provided by the concept of reciprocal determinism, personality variables such as motivation and beliefs in interaction with environmental conditions can explain and serve as predictors of appraisal and coping processes.

I used the qualifying phrase, more or less, to point up the dilemma posed by a poorly understood distinction between moderator and mediator variables (see Baron & Kenny, 1986; Folkman & Lazarus, 1988a, 1988b; Frese, 1986; Zedeck, 1971). A moderator variable is present in the person or environment at the outset and can be measured prior to an upcoming emotional encounter. It affects the reactions of the person in ways that are to some extent statistically predictable before that encounter occurs. A mediator variable is not present at the outset but arises de novo out of the transaction between the person, whose characteristics are to some extent knowable in advance, and an environment whose characteristics are not likely to be so known. Thus, although we can make predictions about someone we know well, such as a spouse, child, parent, or associate, much that this person will do is not predictable in typical social transactions. Appraisal and coping are mediational concepts because they are not completely predictable but depend on how the environment, as perceived and evaluated by an individual person, behaves.

When all is said and done, a cognitive–motivational–relational theory of emotion has great power to help us reason forward about how emotion is generated and how it shapes subsequent adaptations. In turn, it helps us to reason backward from any given pattern of emotion to its causation. This sort of knowledge can aid us in trying to change emotional patterns resulting from faulty appraisal and coping patterns that are clinically dysfunctional or potentially damaging to health. I believe that the prospects for better understanding and intervention have also contributed to the recent surge of interest in the emotions and in programmatic research on the appraisals and coping processes that underly the emotions. The next few decades will indicate whether this interest is just another flash-in-the-pan soon to burn out, as Averill (1983) suggested, or a new beginning to an old problem of great importance for human existence and adaptation.

REFERENCES

Aristotle. (1941). Rhetoric. In R. McKeon (Ed.), *The basic works of Aristotle.* New York: Random House.

Arnold, M. B. (1960). *Emotion and personality* (Vols. 1 & 2). New York: Columbia University Press.

Averill, J. R. (1980). A constructivist view of emotion. In R. Plutchik & H. Kellerman (Eds.), *Theories of emotion: Theory, research, and experience* (Vol. 1, pp. 305–339). San Diego, CA: Academic Press.

Averill, J. R. (1982). *Anger and aggression: An essay on emotion.* New York: Springer-Verlag.

Averill, J. R. (1983). Studies on anger and aggression: Implications for theories of emotion. *American Psychologist, 38,* 1145–1160.

Ax, A. F. (1953). The physiological differentiation between fear and anger in humans. *Psychosomatic Medicine, 15,* 433–442.

Bahrick, R. E., & Watson, J. S. (1985). Detection of intermodal proprioceptive–visual contingency as a potential basis of self-perception in infancy. *Developmental Psychology, 21,* 963–973.

Bandura, A. (1978). The self-system in reciprocal determinism. *American Psychologist, 33,* 344–358.

Bandura, A. (1983). Temporal dynamics and decomposition of reciprocal determinism: A reply to Phillips and Orton. *Psychological Review, 90,* 166–170.

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51,* 1173–1182.

Beecher, H. K. (1956–1957). The measurement of pain, prototype for the quantitative study of subjective responses. *Pharmacological Reviews, 8–9,* 60–209.

Berkowitz, L. (1989). Frustration–aggression hypothesis: Examination and reformulation. *Psychological Bulletin, 106,* 59–73.

Briggs, J. L. (1970). *Never in anger: Portrait of an Eskimo family.* Cambridge, MA: Harvard University Press.

Brown, J., & Farber, I. E. (1951). Emotions conceptualized as intervening variables—With suggestions toward a theory of frustration. *Psychological Bulletin, 48,* 465–495.

Buck, R. (1985). Prime theory: An integrated view of motivation and emotion. *Psychological Review, 92,* 389–413.

Cannon, W. B. (1939). *The wisdom of the body* (2nd ed.). New York: Simon. (Original work published 1932)

Clore, G. L., Ortony, A., & Foss, M. A. (1987). The psychological foundations of the affective lexicon. *Journal of Personality and Social Psychology, 53,* 751–766.

D'Andrade, R. G. (1984). Cultural meaning systems. In R. A. Shweder & R. A. LeVine (Eds.), *Culture theory: Essays on mind, self, and emotion* (pp. 88–119). Cambridge, England: Cambridge University Press.

Davidson, R. J., Ekman, P., Saron, C. D., Senulis, J. A., & Friesen, W. V. (1990). Approach–withdrawal and cerebral assymetry: I. Emo-

tional expression and brain physiology. *Journal of Personality and Social Psychology, 58,* 330–341.
Davitz, J. R. (1969). *The language of emotion.* San Diego, CA: Academic Press.
Dember, W. N. (1974). Motivation and the cognitive revolution. *American Psychologist, 29,* 161–168.
Drever, J. (1952). *A dictionary of psychology.* London: Penguin.
Duffy, E. (1941). An explanation of "emotional" phenomena without the use of the concept "emotion." *Journal of General Psychology, 25,* 283–293.
Duffy, E. (1962). *Activation and behavior.* New York: Wiley.
Dunn, J. (1988). *The beginnings of social understanding.* Cambridge, MA: Harvard University Press.
Ekman, P. (1977). Biological and cultural contributions to body and facial movement. In J. Blacking (Ed.), *The anthropology of the body* (A.S.A. Monograph No. 15; pp. 39–84). San Diego, CA: Academic Press.
Ekman, P. (1984). Expression and the nature of emotion. In K. R. Scherer & P. Ekman (Eds.), *Approaches to emotion* (pp. 319–343). Hillsdale, NJ: Erlbaum.
Ekman, P. (1989). The argument and evidence about universals in facial expressions of emotion. In H. Wagner & A. Manstead (Eds.), *Handbook of social psychophysiology* (pp. 143–163). New York: Wiley.
Ekman, P., Friesen, W. V., & Simons, R. C. (1985). Is the startle reaction an emotion? *Journal of Personality and Social Psychology, 49,* 1416–1426.
Engel, B. T., & Bickford, A. F. (1961). Response specificity. *Archives of General Psychiatry, 5,* 478–489.
Folkman, S., & Lazarus, R. S. (1985). If it changes it must be a process: Study of emotion and coping during three stages of a college examination. *Journal of Personality and Social Psychology, 48,* 150–170.
Folkman, S., & Lazarus, R. S. (1988a). Coping as a mediator of emotion. *Journal of Personality and Social Psychology, 54,* 466–475.
Folkman, S., & Lazarus, R. S. (1988b). The relationship between coping and emotion. *Social Science in Medicine, 26,* 309–317.
Frese, M. (1986). Coping as a moderator and mediator between stress at work and psychosomatic complaints. In M. Appley & R. Trumbull (Eds.), *Dynamics of stress* (pp. 183–206). New York: Plenum.
Frijda, N. (1986). *The emotions.* Cambridge, England: Cambridge University Press.
Frijda, N. (1989). Aesthetic emotions and reality. *American Psychologist, 44,* 1546–1547.
Frijda, N. H., Kuipers, P., & ter Schure, E. (1989). Relations among emotion, appraisal, and emotional action readiness. *Journal of Personality and Social Psychology, 57,* 212–228.
Funkenstein, D. H., King, S. H., & Drolette, M. E. (1957). *Mastery of stress.* Cambridge, MA: Harvard University Press.
Hoffman, M. L. (1985). Affect, cognition, and motivation. In E. T. Higgins & R. M. Sorrentino (Eds.), *Handbook of motivation and cognition: Foundations of social behavior.* New York: Guilford.
Hume, D. (1957). *An inquiry concerning the principles of morals.* New York: Library of Liberal Arts.
Izard, C. E. (1971). *The face of emotion.* New York: Appleton-Century-Crofts.
Izard, C. E. (1977). *Human emotions.* New York: Plenum.
Izard, C. E. (1984). Emotion–cognition relationships and human development. In C. E. Izard, J. Kagan, & R. B. Zajonc (Eds.), *Emotions, cognition, and behavior* (pp. 17–37). New York: Cambridge University Press.
Janis, I. L. (1958). *Psychological stress: Psychoanalytic and behavioral studies of surgical patients.* New York: Wiley.
Johnson-Laird, P. N., & Oatley, K. (1989). The language of emotions: An analysis of a semantic field. *Cognition and Emotion, 3,* 81–123.
Kemper, T. D. (1981). Social constructionist and positivistic approaches to the sociology of emotions. *American Journal of Sociology, 87,* 337–362.
Kemper, T. D. (1987). How many emotions are there? Wedding the social and the autonomic components. *American Journal of Sociology, 93,* 263–289.
Kreitler, H., & Kreitler, S. (1976). *Cognitive orientation and behavior.* New York: Springer.
Lacey, J. I. (1959). Psychophysiological approaches to the evaluation of psychotherapeutic process and outcome. In E. A. Rubinstein & M. B. Parloff (Eds.), *Research in psychotherapy* (pp. 160–208). Washington, DC: American Psychological Association.
Lacey, J. I., Bateman, D. E., & Van Lehn, R. (1952). Autonomic response specificity and Rorschach color responses. *Psychosomatic Medicine, 14,* 256–260.
Lacey, J. I., & Lacey, B. C. (1958). Verification and extension of the principle of autonomic response stereotypy. *American Journal of Psychology, 71,* 50.
Laux, L., & Weber, H. (1991). Presentation of self in coping with anger and anxiety: An intentional approach. *Anxiety Research, 3, 233–255.*
Lazarus, R. S. (1966). *Psychological stress and the coping process.* New York: McGraw-Hill.
Lazarus, R. S. (1990). Theory-based stress measurement: With commentaries. *Psychological inquiry, 1,* 3–51.
Lazarus, R. S. (1991a). Cognition and motivation in emotion. *American Psychologist, 46,* 352–367.
Lazarus, R. S. (1991b). *Emotion and adaptation.* New York: Oxford University Press.
Lazarus, R. S., & Averill, J. R. (1972). Emotion and cognition: With special reference to anxiety. In C. D. Spielberger (Ed.), *Anxiety: Current trends in theory and research* (Vol. 2, pp. 242–282). San Diego, CA: Academic Press.
Lazarus, R. S., Averill, J. R., & Opton, E. M., Jr. (1970). Toward a cognitive theory of emotions. In M. Arnold (Ed.), *Feelings and emotions* (pp. 207–232). San Diego, CA: Academic Press.
Lazarus, R. S., DeLongis, A., Folkman, S., & Gruen, R. (1985). Stress and adaptational outcomes: The problem of confounded measures. *American Psychologist, 40,* 770–779.
Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping.* New York: Springer.
Lazarus, R. S., & Folkman, S. (1986). Cognitive theories and the issue of circularity. In M. H. Appley & R. Trumbull (Eds.), *Dynamics of stress* (pp. 63–80). New York: Plenum.
Lazarus, R. S., & Folkman, S. (1987). Transactional theory and research on emotions and coping. *European Journal of Personality, 1,* 141–169.
Lazarus, R. S., Kanner, A. D., & Folkman, S. (1980). Emotions: A cognitive–phenomenological analysis. In R. Plutchik & H. Kellerman (Eds.), *Theories of emotion: Vol. 1. Emotion: Theory, research, and experience* (pp. 189–217). San Diego, CA: Academic Press.
Lazarus, R. S., & Smith, C. A. (1988). Knowledge and appraisal in the cognition–emotion relationship. *Cognition and Emotion, 2,* 281–300.
Lebra, T. S. (1983). Shame and guilt: A psychocultural view of the Japanese self. *Ethos, 11,* 192–209.
LeDoux, J. E. (1986). Sensory systems and emotion: A model of affective processing. *Integrative Psychiatry, 4,* 237–248.
LeDoux, J. E. (1989). Cognitive–emotional interactions in the brain. *Cognition and Emotion, 3,* 267–289.
Levenson, R. W. (1988). Emotion and the autonomic nervous system: A prospectus for research on autonomic specifity. In H. Wagner (Ed.), *Social psychophysiology and emotion: Theory and clinical applications* (pp. 17–42). London: Wiley.
Leventhal, H. (1984). A perceptual–motor theory of emotion. In K. R. Scherer & P. Ekman (Eds.), *Approaches to emotion* (pp. 271–291). Hillsdale, NJ: Erlbaum.
Levy, R. I. (1973). *Tahitians: Mind and experience in the Society Islands.* Chicago: University of Chicago Press.
Levy, R. I. (1984). Emotion, knowing, and culture. In R. A. Shweder & R. A. LeVine (Eds.), *Culture theory: Essays on mind, self, and emotion* (pp. 214–237). Cambridge, England: Cambridge University Press.
Lutz, C., & White, G. M. (1986). The anthropology of emotions. *Annual Review of Anthropology, 15,* 405–436.
Malmo, R. B. (1959). Activation: A neuropsychological dimension. *Psychological Review, 66,* 367–386.
Marris, P. (1975). *Loss and change.* Garden City, NY: Anchor Books.
Mason, J. W. (1975). Emotion as reflected in patterns of endocrine integration. In L. Levi (Ed.), *Emotions: Their parameters and measurement* (pp. 143–181). New York: Raven.
Mason, J. W., Maher, J. T., Hartley, L. H., Mougey, E., Perlow, M. J., & Jones, L. G. (1976). Selectivity of corticosteroid and catecholamine

responses to various natural stimuli. In G. Serban (Ed.), *Psychopathology of human adaptation* (pp. 147–171). New York: Plenum.
Mechanic, D. (1962). *Students under stress: A study of the social psychology of adaptation.* New York: Free Press. (Reprinted in 1978 by the University of Wisconsin Press)
Meyer, W.-V. (1988). Die rolle von überraschung im attributionsprozess [The role of surprise in the process of causal attribution]. *Psychologische Rundschau, 39,* 136–147.
Meyer, W.-V., Niepel, M., Rudolph, U., & Schützwohl, A. (in press). An experimental analysis of surprise. *Cognition and Emotion.*
Ortony, A., & Clore, G. L. (1981). Disentangling the affective lexicon. *Proceedings of the Third Annual Conference of the Cognitive Science Society, 3,* 90–95.
Ortony, A., & Clore, G. L. (1989). Emotions, moods, and conscious awareness: Comment on Johnson-Laird and Oatley's "The language of emotions: An analysis of a semantic field." *Cognition and Emotion, 3,* 125–137.
Ortony, A., Clore, G. L., & Collins, A. (1988). *The cognitive structure of emotions.* Cambridge, England: Cambridge University Press.
Ortony, A., Clore, G. L., & Foss, M. A. (1987). The referential structure of emotions. *Cognitive Science, 11,* 341–364.
Papousek, H., & Papousek, M. (1974). Mirror-image and self-recognition in young human infants: A new method of experimental analysis. *Developmental Psychobiology, 7,* 149–157.
Rosaldo, M. Z. (1983). The shame of headhunters and the autonomy of self. *Ethos, 11,* 135–151.
Russell, J. A. (1980). A circumplex model of affect. *Journal of Personality and Social Psychology, 39,* 1161–1178.
Schachter, S., & Singer, J. E. (1962). Cognitive, social and physiological determinants of emotional state. *Psychological Review, 69,* 379–399.
Scherer, K. R. (1984). On the nature and function of emotion: A components process approach. In K. R. Scherer & P. Ekman (Eds.), *Approaches to emotion* (pp. 293–317). Hillsdale, NJ: Erlbaum.
Selye, H. (1976). *The stress of life.* New York: McGraw-Hill. (Original work published 1956)
Shaver, P., Schwartz, J., Kirson, D., & O'Connor, C. (1987). Emotion knowledge: Further exploration of a prototype approach. *Journal of Personality and Social Psychology, 52,* 1061–1086.
Shepard, R. N. (1984). Ecological constraints on internal representation: Resonant kinematics of perceiving, imaging, thinking, and dreaming. *Psychological Review, 91,* 417–447.
Shweder, R. A., & LeVine, R. S. (1984). (Eds.). *Culture theory: Essays on mind, self, and emotion.* Cambridge, England: Cambridge University Press.
Smith, C. A., & Lazarus, R. S. (1990). Emotion and adaptation. In L. A. Pervin (Ed.), *Handbook of personality: Theory and research* (pp. 609–637). New York: Guilford.
Spencer, H. (1890). *The principles of psychology* (Vol. I). New York: Appleton. (Original work published 1855)
Stenberg, C. R., & Campos, J. J. (1990). The development of anger expressions in infancy. In N. Stein, B. Leventhal, & T. Trabasso (Eds.), *Psychological and biological approaches to emotion* (pp. 247–282). Hillsdale, NJ: Erlbaum.
Storm, C., & Storm, T. (1987). A taxonomic study of the vocabulary of emotions. *Journal of Personality and Social Psychology, 53,* 805–816.
Tomkins, S. S. (1962). *Affect, imagery, consciousness* (Vol. 1). New York: Springer.
Tomkins, S. S. (1963). *Affect, imagery, consciousness* (Vol. 2). New York: Springer.
Trevarthen, C. (1979). Communication and cooperation in early infancy: A description of primary intersubjectivity. In M. Bullowa (Ed.), *Before speech: The beginnings of human communication.* London: Cambridge University Press.
Trevarthen, C., & Hubley, P. (1978). Secondary intersubjectivity: Confidence, confining acts of meaning in the first year. In A. Lock (Ed.), *Action, gesture and symbol: The emergence of language.* San Diego, CA: Academic Press.
Walters, K. S. (1989). Aesthetic emotions and reality. *American Psychologist, 44,* 1545–1546.
Watson, D., & Tellegen, A. (1985). Toward a consensual structure of mood. *Psychological Bulletin, 98,* 219–235.
Watzlawick, P. (1976). *How real is real?* New York: Random House.
Woodworth, R. S., & Schlosberg, H. S. (1954). *Experimental psychology,* New York: Holt.
Wundt, W. (1905). *Grundriss der psychologie* [Outline of psychology] (7th rev. ed.). Leipzig, Germany: Engelman.
Zedeck, S. (1971). Problems with the use of "moderator" variables. *Psychological Bulletin, 76,* 295–310.